A simple jaw splint for minimally displaced mandible fractures with undisplaced occlusion

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A 35-year-old patient presented with a minimally displaced jaw fracture with normal occlusion. She was treated conservatively with a soft diet and told to avoid doing things that hurt to prevent movement at the fracture site. She had the most difficulty with pain generated by walking, driving on bumpy roads and waking up with an unfavourable jaw position during her sleep. She created a simple Velcro (Velcro Industries BV, USA) splint, that removed all of her pain with walking, driving and sleeping and went on to heal her fracture uneventfully. The occupational therapist easily fabricated this splint for a second patient, who also found it very helpful.

Key Words: *Conservative treatment; Jaw fracture; Mandible; Splint*

Une simple attelle de la mâchoire pour des fractures très peu déplacées de la mandibule et une occlusion normale

Une patient de 35 ans s'est présentée avec une fracture très peu déplacée de la mandibule et une occlusion normale. Elle a reçu un traitement classique, consistant à lui conseiller un régime de consistance molle et d'éviter de faire des choses douloureuses pour prévenir les mouvements au foyer de la fracture. Elle éprouvait surtout des douleurs causées par la marche, la conduite sur des routes cahoteuses et les réveils parce que sa mâchoire s'était déplacée pendant son sommeil. Elle a créé une simple attelle, à l'aide de Velcro (Velcro Industries BV, États Unis), qui a soulagé toutes ses douleurs causées par la marche, la conduite et le sommeil, et sa fracture a guéri sans complication. L'ergothérapeute a facilement fabriqué cette attelle pour un deuxième patient, qui l'a également trouvée très utile.

CASE PRESENTATION

A 35-year-old patient presented with a minimally displaced parasymphyseal jaw fracture with normal occlusion (Figure 1). We treated her conservatively with a soft diet and told her to avoid doing things that hurt to prevent movement at the fracture site. She had the most difficulty with pain generated by walking, driving on bumpy roads and waking up with an unfavourable jaw position during her sleep. She and her sister created a simple Velcro (Velcro Industries BV, USA) splint that removed all of her pain with walking, driving and sleeping (Figure 2). The vertical portion of the splint acted as a jaw-closing force to occlude the teeth. The horizontal part of the splint simply prevented the vertical portion from slipping off.

The patient found that wearing the splint alleviated all of her pain. She wore it consistently every night to help her sleep, and whenever she was walking or driving anywhere to relieve the pain caused by the jarring movements. She felt quite strongly that this was the best thing that she had found to provide pain analgesia. She went on to heal her fracture uneventfully and maintained her normal occlusion.

DISCUSSION

The management of mandibular fractures should be aimed at achieving the following goals: to achieve anatomic reduction and stabilization; to re-establish pretraumatic functional occlusion; to restore facial contour and symmetry; and to balance facial height and projection. The simplest treatment that reaches these goals with the least inconvenience to the patient is the most desirable.

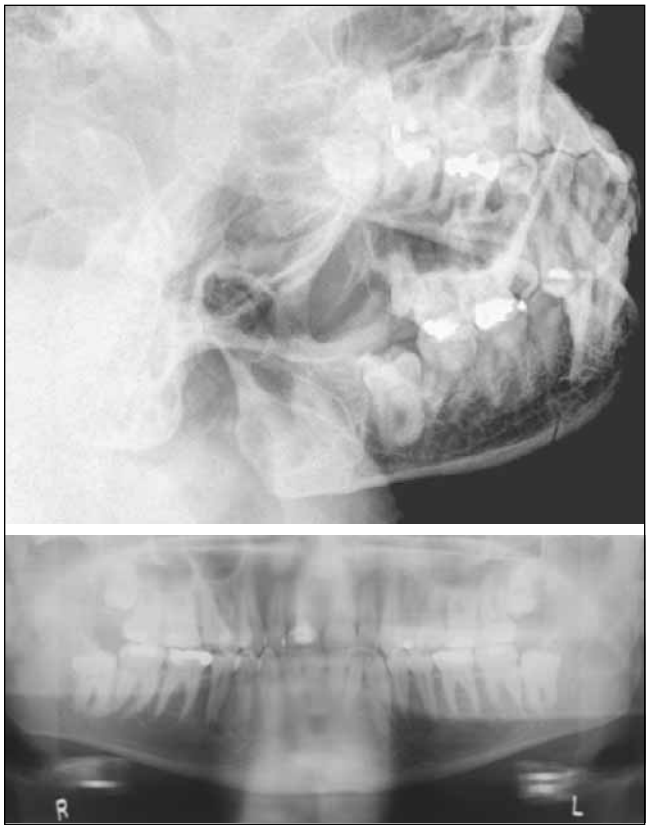

Figure 1) *Minimally displaced left parasymphyseal jaw fracture.* ***Top:*** *Left jaw oblique;* ***Bottom:*** *Panorex*

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Figure 2) *Jaw splint in place*

Minimally displaced jaw fractures and subcondylar fractures in which a proper occlusal relation still exists after the fracture can be treated conservatively without surgery or intermaxillary fixation (1-5). Patients are placed on a soft diet and instructed to avoid activities that generate pain to prevent movement at the fracture site. They must be followed serially to ensure that the occlusion remains normal until the jaw fracture is healed.

While patients are awake, they can more easily restrict their jaw movement to avoid doing things that hurt. However, when they are asleep, it is more difficult to control jaw movement and position. Invariably, these patients are awakened with jaw pain as the jaw shifts into unfavourable positions that generate micromovement in minimally displaced fractures. This problem can be overcome with intermaxillary fixation, but this is very inconvenient for the patient.

Our patient and her sister created a very simple splint that alleviated all of her pain while sleeping, driving on bumpy roads and walking. These were the activities that generated the most discomfort for her. The splint is an incredibly simple device. It is merely a band of elasticized material with Velcro straps at either end to facilitate application and removal. The total cost of the device was minimal and was easily reproduced. We had our occupational therapist easily fabricate this splint for a second patient with the same problem who also found it very helpful for decreasing his jaw pain.

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